

Author	: Maizov, A. V., engineer
Title	: Conference on economy of metal in machine construction
Report No.	: Tech. Rep. 24/3, 89-94, Mar/1954
Abstract	: In November, 1953 a scientific-technical conference was held in Moscow on economy in the use of metal in machine construction. Over 1,000 persons took part. Innumerable papers were read. Some points were brought out, such as the fact that there are places where there is too much scrap and other losses. Something can be accomplished by making some parts lighter.. Substitute materials can be used in some instances. Standardization was recommended and cooperation among factories.
Classification	:
Submitted	:

MOISEYEV, A.V.

BIRSHADSKIY, A.L., doktor tekhnicheskikh nauk; MOISEYEV, A.V.

Regulating frame saw tension. Der. prom. 6 no.3:6-8 Mr '57.

(MLRA 10:5)

1. Belorusskiy lesotekhnicheskiy institut im. S.M. Kirova.
(Band saws)

MOYSEYEV, A. T., Eng.

Walls

New wall block constructions. Ger. khoz.Mosk. 26 No. 4, 1952

Monthly List of Russian Accessions, Library of Congress, December 1952. Unclassified

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001134900024-6

MUSEYEN, A. A.		PATENTED AND PENDING		NO. 100 170 00000	
CA		TANK FURNACE FOR SODIUM GLASS. M. F. Shaw, A. I. Musey, and V. A. Hymel. U.S.P. 60,000, May 31, 1940. The furnace is designed for use of NaCl in the batch in place of Na ₂ CO ₃ and NaOH. The dry batch is fed into a vertical shaft having a floor sloping toward the dog house. Through the shaft the batch cascades over protruding and downward-inclined shelves. Means is provided to admit superheated steam through the inclined floor of the shaft.		M. Hosh	
ADD-666 METALLURGICAL LITERATURE CLASSIFICATION		EXTRACT ABSTRACT			
1000 170 00000		1000 170 00000		1000 170 00000	

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LIT-14 (U) ON	
Doc No. 1100000000	(N) SOURCE CODE: UR/3175/65/000/026/0029/0032
AUTHOR: Grin'kov, E. D.; Litkens, Ye. S.; Mitinkov, V. V.; Moiseyev, A. S.; Semenova, V. Ya.	
ORG: none	
TITLE: Compensating the error of a ferroprobe gradiometer 12	
SOURCE: USSR. Gosudarstvennyy geologicheskii komitet. Osoboye konstruktorskoye byuro. Geofizicheskaya apparatura, no. 26, 1965, 29-32.	
TOPIC TAGS: gradiometer, gradient meter, ferroprobe, magnetometer, ferroprobe magnetometer	
<p>ABSTRACT: When a differential magnetometer is used as a gradient pickup in a ferroprobe gradiometer, the resultant methodical error can only be determined by approximation. This error is attributed to misalignment of the axes of the ferroprobes used, and the following recommendations are proposed for compensation: 1) the probes should be rigidly fixed in a common block to insure stable and parallel alignment, and 2) the remaining error should be compensated by a third auxiliary probe mounted perpendicular to the measuring axis of the gradiometer with a rotating degree of freedom that coincides in direction with the axis. A diagram showing the disposition of the probes is given in Fig. 1. The most accurate compensation is attained with dc. In aligning the system, the block of probes is oriented in a horizontal plane in the north-south direction. By rotating the</p>	
Card 1/2	

Original
"Purification of Water in a Portable Ionite Filter," by I. V. Vol'f, A. S. Moiseyev, P. V. Korystin, and I. V. Novik, Vodosnabzheniye i Sanitarnaya Tekhnika, No 12, Dec 56, pp 8-10

The article gives a brief history of the development of portable ionite filters for purification (elimination of salts and impurities) from water to render it potable, conducted by the All-Union Scientific Research Institute for Hydraulic Engineering and Sanitary Engineering Works, from 1950 to present.

The article also describes in detail the construction and characteristics of a portable ionite water filter developed in 1955 by the above institute in conjunction with the Novosibirsk Scientific Research Sanitary Institute, the filter being designed for the use of small groups under field conditions in areas of high mineral content.

The purified water output of the filter on a single charge of ionites is 250 liters when the salt content of the original water is less than 3 g/l. When the original salt concentration is 5-6 g/l, the fresh water output is reduced to 100-120 l.

SUM. I287 The filtering unit itself is cylindrical in shape, the dimensions being one meter x 200 mm.

23.11. CIAR 100-0513R
A. N. Melnikov and N. M. Abramov, 0513-1849. The
method of Paris (cf. 1 20, 1961, for det. O) in the
gas mixts. was modified and used for the analysis of mix-
tures. 0.97% (4). Specially constructed app. is described.
The method is based on the ϵ m. f. change of a galvanic
element with variation in the partial pressure of O_2 . The
av. abs. error in detg. O_2 by this method is 0.01%.
Data are tabulated. References. A. A. Potapov.

ASD-SEA METALLURGICAL LITERATURE CLASSIFICATION

MOISEYEV, A. S.

Handwritten: C. I. Moiseyev, A. S.

Determination of oxygen in air by means of a galvanic element. A. S. Moiseyev. *Russk. Khim. Obshchestvo im. D. I. Mendeleeva* 1930, No. 3-4, 39; *Komp. Referat. Zhur.* 1930, No. 7, 50; cf. C. A. 33, 8522. C and Zn electrodes and an electrolyte of NH_4Cl paste constitute a galvanic cell. The degree of polarization of the C electrode depends entirely on the partial pressure of O_2 in the air. W. R. Henn

17

ASME 11.4 METALLURGICAL LITERATURE CLASSIFICATION

~~MOISEV, Aleksandr Sergeyevich, inzhener; SHVETSOV, I.B., redaktor;~~
~~ISKRA'YEVA, P.O., tekhnicheskii redaktor.~~

[Achievements of Soviet agricultural machinery construction under the fifth five-year plan] Dostizhenia sovetskogo sel'skokhoziaistvennogo mashinostroeniia v piatoi piatiletke. Moskva, Izd-vo "Znanie," 1954. 29 p. (Vsesoiuznoe obshchestvo po rasprostraneniui politicheskikh i nauchnykh znani, Ser. 4, no. 19) (MLRA 7:9)
(Agricultural machinery industry)

MOISEYEV, A.P. (Moskva)

A series of warm winters. Priroda 52 no.2:127 '63.

(MIRA 16:2)

(Moscow region--Winter)

MOISEYEV, A.P. (Moskva)

April contrasts. Priroda 51 no.4:126-127 Ap '62. (MIRA 15:14)
(Moscow Province—Spring)

MOISEYEV, A.P.; KUVSHINOVA, K.V., kand.geograf.nauk

December in Moscow. Priroda 50 no.12:123-124 D '61.

(MIRA 14:12)

1. Moskovskiy filial Geograficheskogo obshchestva SSSR (for
Moiseyev). 2. Institut geografii AN SSSR, Moskva (for Kuvshinova).
(Moscow--Winter)

MOISEYEV, A.P. (Moskva)

March in the Moscow region. Priroda 50 no. 3:124-125 Mr '61.
(MIRA 14:2)
(Moscow Province--Winter)

MOISEYEV, A.P. (Moskva)

Autumn temperature in the Moscow area. Priroda 49 no.10:115 0 '60.
(MIRA 13:10)

(Moscow Province--Autumn)

AUTHOR: Moiseyev, A.P. (Moscow) SOV-26-58-8-51/51

TITLE: Migration of Martins to the Countryside of Moscow (Otlet
strizhey v Podmoskov'ye)

PERIODICAL: Priroda, 1958, Nr 8, p 127 (USSR)

ABSTRACT: Observations between 1934 and 1956 showed that martins are
seen passing southward through the countryside of Moscow in
the first half of August, 11 August being the mean date. On
13 August 1936 a flock of one thousand was noticed at a di-
stance of 1 to 2 km in the village of Kolomenskoye of the
Leninskiy District. The latest migration date of a major
flock of martins was recorded on 6 Sep 1953. Individual
martins were seen on 24 Sep 1957 and even on 3 Oct. These
happened to be unusually warm months followed by a cold in
the first decade of the October month that surpassed the con-
ditions of the ensuing first tendays of November.

1. Martins--USSR

Card 1/1

USCOMM-DC-55419

AUTHOR: Moiseyev, A.P. (Moscow) 26-58-7-46/48

TITLE: A Summer of **Thunderstorms** and Tempests in the Moscow Area
(Leto groz i bur' v podmoskov'ye)

PERIODICAL: Priroda, 1958, Nr 7, p 126 (USSR)

ABSTRACT: In the summer of 1957 there were 36 days with thunderstorms,
often accompanied by tempests and hail in the Moscow area.
The mean annual number of thunderstorm days is 24.

1. Storms--USSR

Card 1/1

AUTHOR: Moiseyev, I.I. (Moscow) E-114-1
TITLE: Summer Full Moons (Letniye polnoluniya)
PERIODICAL: Priroda, 1958, Nr 6, p 125-126 (USSR)
ABSTRACT: The article deals with the summer full moon and its visibility in the central belt of the USSR. It is pointed out that the moon does not rise very high above the horizon, which is due to certain peculiarities of the moon's circulation around the earth and their joint circulation around the sun.
Card 1/1

1. Moon-Visibility-USSR

SOV-26-58-2-48/51

AUTHORS: ~~Moiseyev, A.P.~~ (Moscow), Kuznitsya, E.A. (Slobodskoy,
Kirov Oblast')

TITLE: Early Spring Thunderstorms (Ranniye vesenniye grozy)

PERIODICAL: Priroda, 1958, Nr 3, pp 125-126 (USSR)

ABSTRACT: Thunderstorms during the cold season are comparatively rare in the European continental regions of the USSR. If they happen, it is due to the invasion of intensive cyclones with Atlantic air masses. This is accompanied by thawing, fogs and violent winds causing drifting snowstorms.

1. Storms---USSR 2. Thunderclouds---USSR 3. Cyclones---Meteoro-
logical effects

Card 1/1

MOISEYEV N. I.

16-58-1240/18

AUTHOR: Galakhov, N.N., Doctor of Geographical Sciences; Volnager, I.I. (Moscow); Klintsov, A.F. (Dolinsk, Sakhalin oblast).

TITLE: Calendar of Nature (Kalendari' prirody)

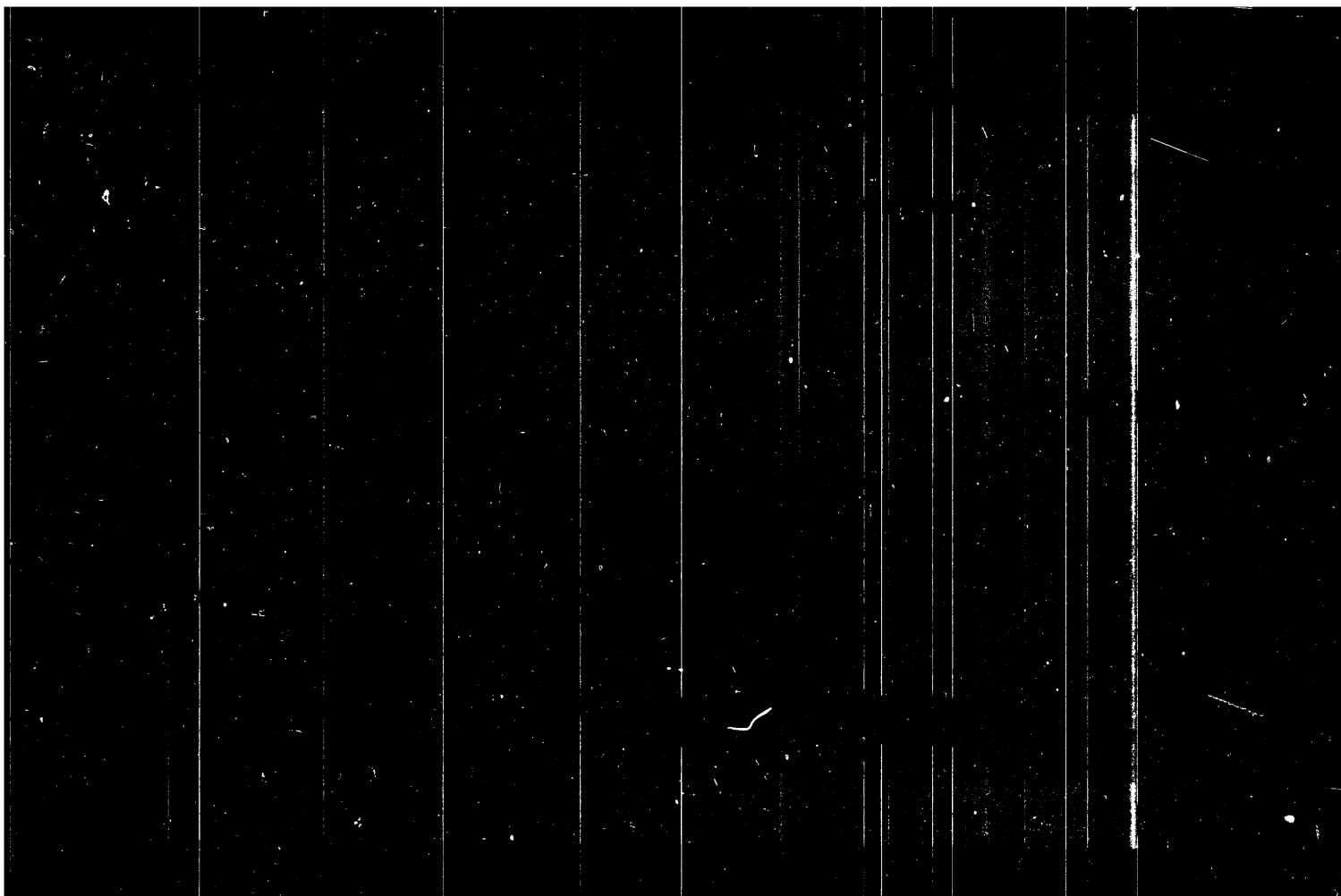
PERIODICAL: Priroda, 1958, Nr 2, pp 126-128 (USSR)

ABSTRACT: These three separate reports deal with the average and exceptional temperatures for February in the USSR as a whole and around Moscow and on Sakhalin in particular. There is 1 diagram.

ASSOCIATION: Institut geografii Akademii nauk SSSR (Institute of Geography of the USSR Academy of Sciences, Moscow)

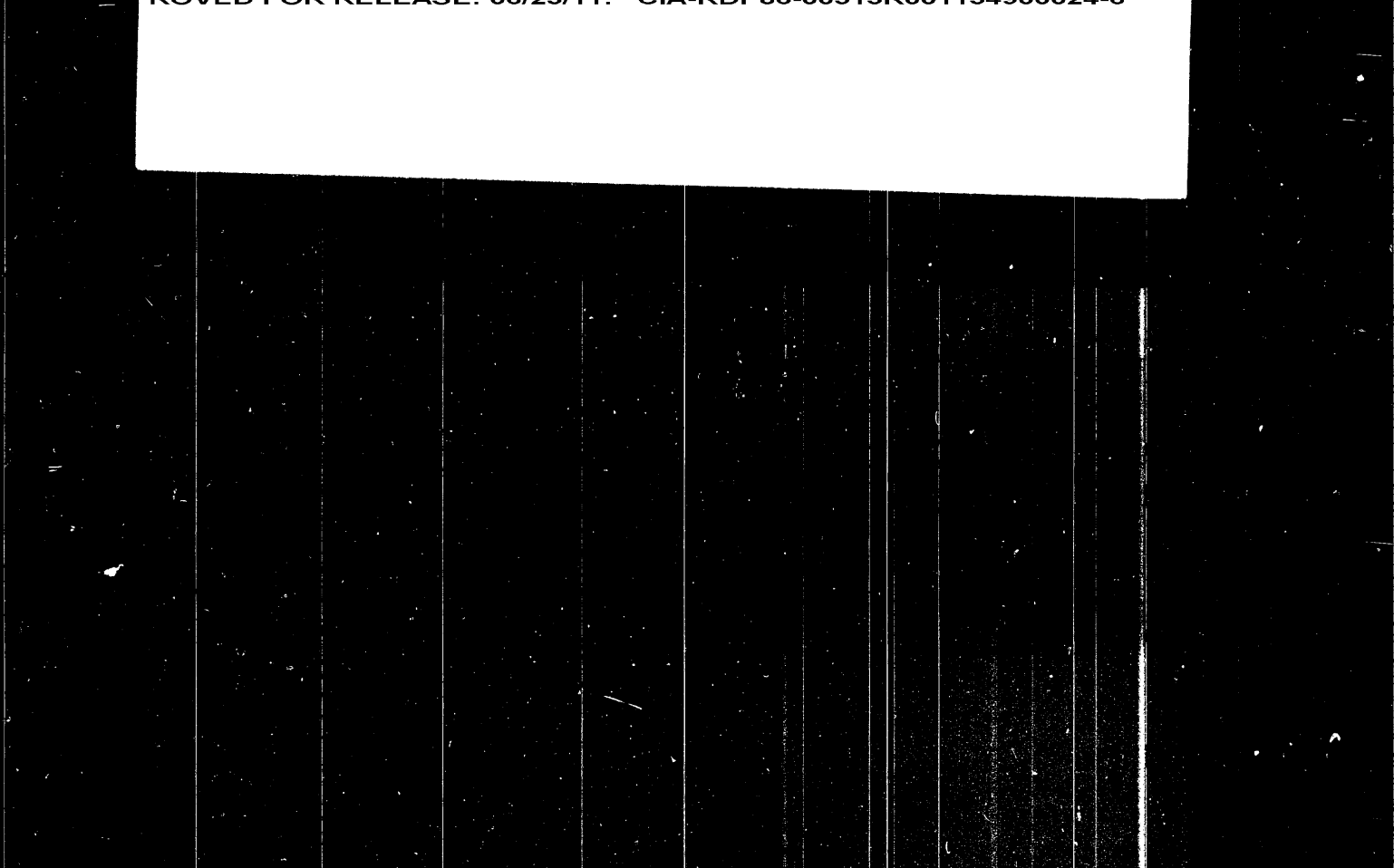
Card 1/1 1. Meteorology--USSR 2. Temperature--Applications

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MOISEYEV, A.P. (Moscow)

The subject of this document is classified as CONFIDENTIAL

Stormy outburst of solar activity in August 1953. Astron. tsir.
no. 142:5-6 S '53. (MLRA 7:7)
(Sunspots)

MOISEYEV, A.P.

Photosphere activity on the Sun in 1951-1952. Astron. tsir. no. 137:11-12
Ap '53. (MLda 5:5)
(Sunspots)

JAN 200 1000000		PROCEDURES AND PROPERTIES INDEX		NO 100 1000000	
AMS/A+B			MAY 1961		
2.5-303			501.504.9:550.183		
<p><u>Moscow, A. P. Anisimov, I. S. and N. V. P. (ed.) Zvezdochka (polaris) olimpie</u> <u>20 NOVEMBER 1950</u> [Moscow, also aurora borealis on February 1, 1950] <i>Pravda</i>, 10(11):48- 49, Nov. 1950. 4 rub. DLC: Report on a brilliant and colored aurora borealis observed in Moscow and other places on Feb. 20, 1950. According to additional reports received by the editor, the phenomenon has been observed in different parts of European and Asiatic Russia as well as in western Europe and the U.S.A. One observer reported seeing red rays reflected from snow. Communications were intercepted over many parts of Eurasia and the North Atlantic (see <i>MONITORING, Sky and Telescope</i>, No. 6, p. 130, 1950) also (<i>L'Astronomie</i>, Vol. 64, p. 123, 1950). The magnetic storm corresponded with a very large group of spots located on the central meridian of the sun Feb. 20, 1950. <u>Subject Headings: Auroras, Magnetic storms,</u> <u>U.S.S.R.-M.R.</u></p>					
AND-51A METALLURGICAL LITERATURE CLASSIFICATION					
JAN 200 1000000		JAN 200 1000000		JAN 200 1000000	

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23910

MOISEYEV, A. P. O viliosti Solnednaia Piaton Revoprusheniya Slava.
Priroda, 1949, No. 7, S. 41-43.

SO: Letopis, No. 32, 1949.

USSR/Physics
Solar Phenomena
Sun Spots

Mar 1948

"Sun Spots April-June 1947," A. P. Moiseyev, 2 pp

"Priroda" No 3

Describes sun spots during this period. Mentions
spring storms in European part of USSR. Storms may
be associated with large group of spots visible at
that time.

777100

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001134900024-6

SO: U-3218, 3 Apr 1953

Meteorological Research Jul 1946

1946

Minimum of Thunderstorm Activity in Moscow, "Lasev, 1/2 p

No 7

30-year period (1915 - 1945) Moscow had a year-
age of 24 days of thunderstorm activity. The
has in 1917 with 38 days, the minimum in 1940
days. In 1945, however, there were only 11
storm days, with the first appearance on the
storm 47 days later than the 30-year average.
to the data available at the Meteorological
Bury of the Timiryazev Agricultural Academy,

Meteorological Research (Contd) Jul 1946

had the lowest number of days of thunderstorm
y for a period of 65 years.

1946

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4-47-64.
1. Zaveduyushchiy otdelom zashchity rasteniy Kirgizskogo nauchno-issledovatel'skogo instituta zemledeliya (for Moiseyev). 2. Zaveduyushchiy eksperimental'noy konstruktorskoy laboratoriyey Kirgizskogo nauchno-issledovatel'skogo instituta zemledeliya (for Fishman).

MOISEYEV, A. N.

"Insects Which Damage Seeds and Fruit of the Woody Shrub Species of Novotovskaya
Oblast, Their Biology and Control."
Cand Biol Sci, Novocherkassk Soil Improvement Engineering Inst, Novocherkassk,
1954. (RZhBiol, No 6, Mar 55)

So: Sum No. 70, 29 Sep 55 - Survey of Scientific and Technical Dissertations
Defended at USSR, Higher Educational Institutions (15)

IVANOV, Yakov Andreyevich, kand. sel'khoz. nauk, nauchnyy sotr.;
RYZHEY, Ivan Petrovich, kand. biolog. nauk, nauchnyy sotr.;
ZAVGORODNYAYA, Yelena Tikhonovna, nauchnyy sotr.; TAPLOVA,
Yekaterina Alekseyevna, nauchnyy sotr.; MOISEYEV, Aleksandr
Nikiforovich, nauchnyy sotr.; ABDUMANAPOLOV, S., red.;
NOSOVETS, F.G., red.; BEYSHENOV, A., tekhn. red.

[Field testing of grain, oilseed, and forage crops in the
Kirghiz S.S.R.] Aprobatsiia zernovykh, maslichnykh i kor-
movykh kul'tur v Kirgizskoi SSR. Frunze, Kirgizskoe izd-vo,
1959. 174 p. (MIRA 15:3)

1. Kirgizskiy nauchno-issledovatel'skiy institut zemledeliya
(for Ivanov, Ryzhey, Zavgorodnyaya, Teplova, Moiseyev).
(Kirghizistan--Grain breeding)
(Kirghizistan--Oilseed Plants)
(Kirghizistan--Forage plants)

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is known, then it is possible to estimate the radiation width Γ_{γ} at different excitation energies. Starting from the threshold of the (γ, n) reaction, the neutron width Γ_n increases rapidly, and the cross section for the (γ, γ') reaction decreases accordingly. The ratio of the cross sections $\sigma(\gamma, \gamma')/\sigma_n$ remains almost constant (~ 0.01) up to 16 Mev. At higher energies, the relative probability of inelastic scattering increases, and amounts to about 10% at 20 Mev. At energies of 20-22 Mev, the radiation of rhodium is 25-30% of the neutron width. I. V. Shtranikh is mentioned. There are 2 figures, 2 tables, and 16 references: 3 Soviet, 11 US, 1 Canadian, and 1 French. ✓

ASSOCIATION: Fizicheskiy institut im. P. N. Lebedeva Akademii nauk SSSR
(Institute of Physics imeni P. N. Lebedev, Academy of Sciences USSR)

SUBMITTED: June 23, 1960

Card 3/3

reaction was measured with a scintillation counter. X-ray bombardment of rhodium with a maximum energy of up to 25.5 Mev produces radioisotopes in different reactions. The most important reactions with a fraction of about 90% of all decaying rhodium nuclei are (γ, n) and $(\gamma, 2n)$. It was possible to excite the metastable states of rhodium Rh^{103m} not only by the (γ, γ') reaction but also by inelastic scattering of photoneutrons when irradiating the rhodium specimens in the synchrocyclotron. The $\sigma(E)$ curve has two maxima. The position of the first maximum falls within the experimental accuracy and agrees with the threshold of the (γ, n) reaction. The second maximum is at about 20 Mev; this is 3 to 4 Mev higher than the energy corresponding to the maximum cross section of nuclear absorption of photons (16 Mev). In the range of the second maximum, the cross section cannot be determined as accurately as in the range of the first one. The calculated cross section of the $Rh^{103}(\gamma, \gamma')Rh^{103m}$ reaction gives the lower limit of inelastic nuclear scattering by rhodium. In order to find the total cross section for this reaction it is necessary to know the relative production probability of the isomeric state when the protons are scattered inelastically; if the cross section for the (γ, γ') reaction

Card 2/3

S/056/60/033/005/000/00
B029/B077

AUTHORS: Bogdankevich, O. V., Lazareva, L. Ye., Moiseyev, A. M.
TITLE: Inelastic Scattering of Photons by Rh^{103} Nuclei
PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1966,
Vol. 39, No. 5(11), pp. 1224-1228

TEXT: The authors measured the yield of the reaction $Rh^{103}(\gamma, \gamma') Rh^{103m}$ on the synchrotron of FIAN (Physics Institute of the Academy of Sciences USSR) at different maximum bremsstrahlung energy, from 5.9 to 25.5 Mev in intervals of about 1 Mev. The number of isomeric nuclei of Rh^{103m} ($T = 56 \pm 1$ min, $E_\gamma = 40 \pm 0.5$ kev) was determined from decay curves of the induced activity. These measurements were made with specimens of metallic rhodium (purity of 99.9%) 20 and 50 μ thick (24.8 and 62 mg/cm²). The decay of Rh^{103m} nuclei is characterized by the following quantities: transition energy, 40 kev; conversion coefficient α_K from the K-shell, 40; ratio of the conversion coefficients on the K-shell and L-shell, 0.09 ± 0.01 , and on the L-shell and M-shell, 7 ± 1 . The yield of the $Rh^{103}(\gamma, \gamma') Rh^{103m}$ reaction is 0.09 ± 0.01 . V

Card 1/3

MOISEYEV, A.M.

Heat conductivity of apple and grape juice. Kons. i ov. prom.
18 no.11:21-23 N '63. (MIRA 16:12)

1. Krasnodarskiy nauchno-issledovatel'skiy institut pishchevoy
promyshlennosti.

MOISEYEV, A.M.; CHEREZOV, Ye.S.; PEPELEV, A.V.

Machine for cubing vegetables. Kons.1 ov. prom. 16 no.2:10-12
P '61. (MIRA 14:4)

1. Krasnodarskiy nauchno-issledovatel'skiy institut pishchevoy promyshlennosti (for Moiseyev, Cherezov). 2. Krasnodarskiy liteyno-mekhanicheskiy zavod (for Pepelev).
(Canning and preserving--Equipment and supplies)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001134900024-6

MOISEYEV, A.M.

Machine for cubing vegetables. Biul. tekhn.-ekon. inform.
no. 2:54-55 '61. (MIRA 14:2)
(Food industry—Equipment and supplies)

MOISHEV, A.M.

Machines for peeling onions. Kons. i ov. prom. 14 no.8:10-12
Ag '59. (MIRA 12:9)

1. Krasnodarskiy nauchno-issledovatel'skiy institut pishchevoy
promyshlennosti.
(Onions)

MOISEVICH, A.M.

Designing the heating surface of steam-heated deep-fat fryers.
Kons. i ev. prem. 14 no.1:16-18 Ja '59. (MIRA 12:1)

1.Krasnodarskiy nauchno-issledovatel'skiy institut konservnoy
promyshlennosti.
(Canning and preserving--Equipment and supplies)

RABINER, N.Za.; MOISEYEV, A.M.

Machine for cleaning peppers and tomatoes. Kons. 1 ov. prom. 13
no.7:15-16 J1 '58. (MIRA 11:6)

1. Ukrainakiy nauchno-issledovatel'skiy institut konservnoy pro-
myshlennosti (for Rabiner). 2. Krasnodarskiy nauchno-issledovatel'-
skiye institut konservnoy promyshlennosti (for Moiseyev).
(Tomatoes) (Peppers)
(Canning industry--Equipment and supplies)

ACC NR: AP6034569

tested on platinum and nichrome wire 0.3 mm in diameter. The temperature of deposition was varied between 800—1200C. A single-phase layer (1—4 μ thick) of Nb₃Sn with β -W structure was obtained. It was established that the thickness of the layer increases with a temperature rise. Orig. art. has: 1 figure.

SUB CODE: 11, 13 ~~24~~ SUBM DATE: 11May66/ ORIG REF: 003/ OTH REF: 013/
ATD PRESS: 5103

Card 3/3

ACC NR: AP6034569

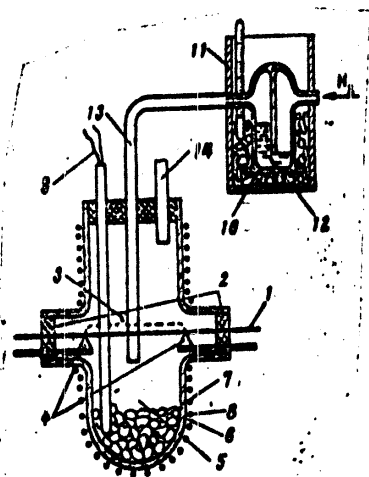


Fig. 1. Unit for vacuum vapor deposition of Nb_3Sn on wire.

passed through pipe 13 to the reaction chamber, where it comes in contact with the wire and forms a layer of Nb_3Sn on its surface. Waste gases are removed through pipe 14. With this arrangement, the zone in which niobium trichloride can be formed is very small and a clogging of the reaction chamber was not observed. The unit was

Card 2/3

ACC NR: AP6034569

(N)

SOURCE CODE: UR/0020/66/170/006/1303/1305

AUTHOR: Arkharov, V. I. (Academician AN UkrSSR); Borisov, B. S.; Moiseyev, A. I.; Ugol'nikova, T. A.

ORG: Institute of Physics of Metals, Academy of Sciences SSSR (Institut fiziki metallov Akademii nauk SSSR)

TITLE: Vacuum vapor deposition of an Nb₃Sn layer on a wire

SOURCE: AN SSSR. Doklady, v. 170, no. 6, 1966, 1303-1305

TOPIC TAGS: niobium ~~tin~~ compound, superconductor compound, niobium compound, metal deposition, vacuum vapor deposition, ~~vacuum vapor deposition unit~~

ABSTRACT: To reduce the clogging of the reaction chamber by nonvolatile niobium trichloride, a new method and equipment (see Fig. 1) for continuous deposition of a superconducting layer of Nb₃Sn on a moving wire has been developed. Wire 1 is continuously fed through seals 2 into a reaction chamber at a fixed speed. Portion 3 of the wire is under treatment and is heated to about 1000C by electric current fed through sliding contacts 4. The bottom part 6 of reaction chamber 5 contains solid niobium pentachloride 7. The chamber is maintained at a temperature of 120—180° by electric furnace 8 controlled by thermocouple 9. Vapors of niobium pentachloride proceed directly to the wire. Hydrogen passing through reservoir 10, located in thermostat 11 and kept at °C, is saturated with vapors of tin tetrachloride 12 and then

Card 1/3

UDC: 669.65.293:621.793

L 06192-67 EMI(m)/EMP(t)/ETI IJP(c) JD/JG
 ACC NR: AP6032528

SOURCE CODE: UR/0413/66/000/017/0128/0128

INVENTOR: Arkharov, V. I.; Borisov, B. S.; Moiseyev, A. I.; Ugol'nikova, T. A. 29
 E

ORG: none

TITLE: Method of deposition of intermetallic niobium-tin compound Nb_3Sn coating.
 Class 48, No. 185661. [announced by the Institute of Physics of Metals, AN SSSR
 (Institut fiziki metallov AN SSSR)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 17, 1966, 128

TOPIC TAGS: niobium tin intermetallic compound, niobium tin compound coating,
 niobium tin compound deposition, *METAL DEPOSITION, METAL COATING,*
NIObium COMPOUND, TIN COMPOUND 27

ABSTRACT: This Author Certificate introduces a method of deposition of niobium-tin compound coatings. To increase the purity and uniformity of the coating, niobium pentachloride is placed in the reaction chamber and heated to 120—160C, and the gaseous mixture of tin tetrachloride and hydrogen at about 0C is fed directly on the preheated port of the substrate.

SUB CODE: 11, 13/ SUBM DATE: 11Apr64/

UDC: 669.65' '293:621.793

Card 1/1 afe

ARKHAROV, V.I.; BELENKOVA, M.M.; MIKHEYEVA, M.N.; MOISEYEV, A.I.;
POLIKARPOVA, I.P.

Change of magnetic susceptibility and the behavior of small impurities
in the decomposition of an Ag - Cu solid solution. Izv. AN SSSR.
Ser. fiz. 28 no.1:148 151 Ja '64. (MIRA 17:1)

1. Institut fiziki metallov AN SSSR.

The accelerating elements

S/120/62/000/004/016/047
E192/E382

0.65 - 3.5 Mc/s. The phase-shift between the output voltages of any two channels is less than 30°. The overall power used by the supply system is 400 kVA. By using tuned amplifiers in the output stages the power consumption was reduced by about 30 times, as compared with a non-tuned amplifier. There are 4 figures.

SUBMITTED: March 29, 1962

Card 2/2

MOISEYEV, A. I.

100P

5/120/62/006/004/016/047
E192/E382

741031
AUTHORS: Lebedev-Krasin, Yu.M., Gutner, B.M., Pisarevskiy, V.Ye.,
Feskin, A.S., Barabash, L.Z., Kuryanov, V.S. and
Moiseyev, A.I.

TITLE: The accelerating elements of the proton synchrotron
and the system of their high-frequency feed

PERIODICAL: Priroda i tekhnika eksperimenta, no. 4, 1962,
94 - 97

TEXT: The description, principal characteristics and the
results of the control of the h.f. accelerating system of the
7 GeV proton cyclotron are reported. The accelerating elements
are in the form of drift tubes situated in 11 compensating
magnets. Each of the 11 electrodes is fed from a separate
system of high-frequency amplifiers consisting of a 7-stage
wideband amplifier and an automatically-tuned resonance output
amplifier. The inductances of the resonant circuit in the output
stages are in the form of coils fitted with ferrite cores. The
amplitude of the high-frequency field of each accelerating
electrode is $2.5 \text{ kV} \pm 10\%$ over the frequency range of
Card 1/2

SECRET

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On the Simplicity of a Dynamical Model of an Elasticity and
Stress Relaxation Process

ASSOCIATION: University of Maryland, University College
A. N. Kolmogorov
University of Maryland, University College
Card 376 Institute for Studies in the Sciences
Department of Physics and Astronomy, University of Maryland

SUBMITTED: July 11, 1970

~~APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001134900024-6~~

8/13/96/0071-7017/01
AC 1/E 11

On the Simplicity of a Rigorous Explanation of the Behaviour of
Stress Relaxation Curves

deformation and phase transformation, the latter being accompanied by a decrease in specific volume, is a result of which the observed stress values rise with time which could mean either an increase or no phase transformation (see dashed line 1 of the figure on p.102). Starting from the moment of testing, the rate of phase transformation decreased and the relaxation curve gradually approached the curve corresponding to the absence of phase transformation, i.e., the rate of phase transformation decreased with time with which increased the rate of relaxation. It is evident that under conditions of relaxation, increased cooling time, especially with reduction of the material, leads to a faster rate of relaxation and the rate of the relaxation curve tends to approach the curve of the annealed and hardened material. Therefore, the above and general consideration of all relaxation processes, occurring in a hardened material. These data (Figures 6 and 7) refer to the specimen of type 30CrNiMoV15. Figure 8

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~~APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001134900024-6~~

1/P 220

18946

S/126/60/009/01/01/01-
EC/1/E191

AUTHORS: Kolesnikov, G.N. and Reisner, A.I.

TITLE: On the Simplicity of a Physical Explanation of the Behaviour of Stress Relaxation Curves

PERIODICAL: Fizika metallov i metallovedeniye, 1960, Vol. 9, No. 1, pp 100-102 (USSR)

ABSTRACT: In order to facilitate the argument the authors assume that the stress relaxation process occurs in a material which has been subjected to uniaxial tension. The relaxation curve obtained experimentally under conditions of the so-called "pure relaxation" (Ref 1) represents the dependence of the average stress, acting on the specimen, on time, with the total deformation of the specimen being kept constant. As a result of imparting a certain total deformation (i.e. new external conditions) to the specimen, various relaxation processes, different in their physical nature, arise in it which bring the specimen to a new equilibrium condition corresponding to the changed external conditions (Ref 2). These processes can be divided into two types: (1) processes causing an increase in

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001134900024-6

slip traces, etc); 4) to study processes proceeding in the metal with time (ordering, aging, relaxation, etc.). There are 122 references.

V. Stepanov

[Abstracter's note: Complete translation]

Card 2/2

S/137/61/000/012/127/1-9
A006/A101

AUTHORS: Grin', A.V., Moiseyev, A. I., Shmatov, V.T.

TITLE: Internal friction and small amounts of admixtures in metals

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 12, 1961, 38, abstract
12Zh283 ("Tr. In-ta fiz. metallov, AN SSSR", 1960, no. 23, 163-173)

TEXT: This is a review. The authors analyze data on the connection of internal friction with the presence of small amounts of admixtures. An analysis is made of internal friction in interstitial solid solutions; internal friction connected with relaxation along the grain boundaries, and internal friction caused by the presence of dislocations. The conclusion is drawn that with the aid of methods for the investigation of internal friction, it is possible: 1) to estimate the amount of small admixtures in pure metals, and in some cases, their concentration; 2) to determine diffusional parameters of atoms of admixtures at low temperatures; 3) to study internal adsorption of atoms of admixtures on structural heterogeneities (grain boundaries, domains, dislocations,

Card 1/2

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001134900024-6
stages of the aging of alloys, Issl. po zharopr. splyav. 4.
176-180 '59. (MIRA 13:5)
(Solutions, Solid--Analysis)

SOV/126-6-5-40/43

An Internal Friction Peak Observed in the Testing of Deformed Aluminium

maximum **B** in curve 1 is due to relaxation of stresses at the points of localisation of plastic deformation. Tests of deformed aluminium (Ref 11) with temperature increasing show that the peak due to relaxation of stresses at the grain boundaries increases in magnitude but the second peak near 500°C does not appear at all. This is due to recrystallisation of the samples which occurs in the process of measurement itself, as the temperature is increased first to 300°C. There are 1 figure and 12 references, 6 of which are Soviet and 6 English.

ASSOCIATION: Institut fiziki metallov AN SSSR
(Institute of Metal Physics, Ac. Sc. USSR)
SUBMITTED: May 16, 1958

Card 3/3

SOV/126-6.5-40/43

An Internal Friction Peak Observed in the Testing of Deformed Aluminium

of the difference in the scales of the defects at the points of localisation of deformation and in the intercrystalline regions, the internal friction peaks, due to these two types of defects, should appear at different temperatures. To verify these ideas, the authors tested 99.99% aluminium, compression-deformed by 80% by rolling and drawing down to 1 mm dia. without intermediate annealing. Samples were placed in a furnace previously heated to 600°C and the internal friction was measured by means of a torsion pendulum (Ref 1). The internal friction was measured as the temperature in the furnace was lowered (Fig 1, curve 1). Curve 1 shows, in addition to the usual maximum A in the region of 350°C, an additional maximum B in the region of 500°C. Curve 2 of Fig.1 was obtained on aluminium samples which were deformed by 80% and then annealed for four hours at 600°C. Curve 2 has only one maximum A, which is due to relaxation of stresses in the grain boundaries. The authors suggest that the

Card2/3

SOV/126-6-5-40/43

AUTHORS: Ibragimova, D.M., and Moiseyev, A. I.

TITLE: An Internal Friction Peak Observed in the Testing of Deformed Aluminium (Pik vnutrennego treniya, nablyudayemyy pri ispytanii deformirovannogo alyuminiya)

PERIODICAL: Fizika Metallov i Metallovedeniye, 1958, Vol 6, Nr 5, pp 952-953 (USSR)

ABSTRACT: A peak in the region of 300°C (at 0.8 c/s frequency) was observed in the curve representing the temperature dependence of the internal friction in polycrystalline aluminium of 99.991% purity. It was first reported by Ke (Ref 1) and later confirmed by Ke (Refs 2-6) and by other authors (Refs 7-12). Ke ascribed the observed peak to relaxation of stresses at grain boundaries. He assumed that the grain boundaries (intercrystallite regions) have viscous properties, i.e. the crystalline structure in the intercrystallite regions is defective. The present authors point out that deformed metals have a large number of points of localisation of plastic deformation. Viscous properties of the points of localisation of deformation should also affect the temperature dependence of the internal friction. Because

Card1/3

NOV/126-46-4-9/34

The Effect of Small Additions of Antimony and Beryllium on Ageing of the Copper-Silver Alloys. (Part IV. On the Problem of Causes of the Effects of Small Alloying Additions on the Kinetics of Ageing of Alloys)

of the lattice distortions in the zones connecting the nuclei with the solid solution matrix are correspondingly altered. There are 9 graphs, 1 table and 21 references of which 20 are Soviet and 1 English.

ASSOCIATION: Institut Fiziki Metallov Ural'skogo Filiala AN SSSR
(Institute of Metal Physics, Ural Branch of the AS USSR)

SUBMITTED: 18th December 1956.

Card 11/11

SOV/128-4-19/34

The Effect of Small Additions of Antimony and Beryllium on Ageing of the Copper-Silver Alloys. (Part IV. On the Problem of Causes of the Effects of Small Alloying Additions on the Kinetics of Ageing of Alloys)

vicinity of the solute atoms are non-additive because - owing to the fact that Be atoms are smaller and Sb atoms larger than the solvent atoms - the lattice distortions caused by the atoms of either element present separately are more severe than those caused by the complexes formed when the two alloying additions are present simultaneously. In the later stages of the ageing process when growth of the decomposition centres affected by the adsorption of the alloying elements in the surrounding zones is the predominating factor, the non-additive character of the effects of Sb and Be is evidently due to the fact that at first beryllium is preferentially adsorbed, while adsorption of antimony takes place mainly in the later stages. This time-lag in the adsorption activities of the two elements is probably associated with the fact that with the growth of the decomposition nuclei the character and magnitude

Card 10/11

DOV/12.5.4-9/5

The Effect of Small Additions of Antimony and Beryllium on Ageing of the Copper-Silver Alloys. (Part IV. On the Problem of Causes of the Effects of Small Alloying Additions on the Kinetics of Ageing of Alloys)

overall concentration of the additions present simultaneously in the alloy: At a given Sb concentration, beryllium - when present in small quantities - is absorbed mainly in the form of complexes with the result that the concentration of Sb in the adsorption zone is increased and its accelerating effect on the decomposition of the solid solution is multiplied. On the other hand, when the Be content is high, it is adsorbed in the form of single atoms which increases its concentration in the adsorption zones with the result that the rate of decomposition is slowed down. The effects of Be and Sb on the course of the ageing process are also non-additive. In the initial stages of the process when formation of nuclei of decomposition is the predominant factor affecting the kinetics of decomposition, the effects of the alloying additions on nucleation due to local lattice distortions in the

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SCV/128-6-4-9/34

The Effect of Small Additions of Antimony and Beryllium on Ageing of the Copper-Silver Alloys. (Part IV. On the Problem of Causes of the Effects of Small Alloying Additions on the Kinetics of Ageing of Alloys)

including those corresponding to the maximum values of v_{cm} . These effects can be explained on the basis of a hypothesis of internal adsorption of the Sb and Be atoms in structurally distorted zones linking the nuclei of decomposition with the solid solution matrix; it being postulated that the alloying elements can be adsorbed not only as separate atoms but also in the form of complexes containing atoms of both additions. As a result of the adsorption of complexes the free energy of the distorted zones is decreased in regions where - owing to the specific character of the distortion - it would not be decreased by adsorption of single atoms. The extent to which adsorption of complexes affects the kinetics of decomposition of the solid solution varies with time since, as a result of adsorption, the total concentration of both alloying elements in the adsorption zone is altered to a degree depending on the

Card 8/11

SOV/126-2-4-9/54

The Effect of Small Additions of Antimony and Beryllium on Ageing of the Copper-Silver Alloys. (Part IV. On the Problem of Causes of the Effects of Small Alloying Additions on the Kinetics of Ageing of Alloys)

stage, its effect being most pronounced at $t = 50$ min. The following interpretation of the obtained results is offered by the present authors: The average rate, v_{cm} , of the isothermal decomposition of a super-saturated solid solution of silver in copper is markedly affected by small simultaneously present additions of Sb and Be, even when these elements are present in concentrations considerably lower than their respective solid solubility limits. When added separately, antimony accelerates and beryllium slows down the process of decomposition. However, these effects are not additive when Sb and Be are present simultaneously: At a given Sb concentration v_{cm} increases at first with the increasing Be content, reaches a maximum and then slowly decreases (Fig.1-3). The higher the content of antimony the higher are the values of v_{cm} for any given beryllium concentrations

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SCV/126-6-4-9/34

The Effect of Small Additions of Antimony and Beryllium on Ageing of the Copper-Silver Alloys. (Part IV. On the Problem of Causes of the Effects of small Alloying Additions on the Kinetics of Ageing of Alloys)

and the greater is the magnitude of the effect.) The effect of 0.2% Sb on ageing of Cu-Ag alloys containing 0.02 and 0.1% Be (Fig.5) is similar to its effect on the binary Cu-Ag alloy. The same applies to the effect of simultaneous additions of Sb and Be, except that in this case the maximum value of $\Delta\chi$ decreases with increasing Be content (Fig.6). The effect of Be on kinetics of ageing of the Cu-Ag alloy containing 0.2% Sb is much more complex. At small concentrations (0.02%) beryllium accelerates ageing of the Cu-Ag-Sb alloy (graph 1) in all stages of the process, $\Delta\chi$ reaching its maximum after 1 hr. 0.1% Be slows the process down in its initial stage and accelerates it slightly in the final stage. When present in larger quantities (0.2 - 0.3%) it slows down the ageing process of the Cu-Ag-Sb alloy at every

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SOV/126-6-4-9/34

The Effect of Small Additions of Antimony and Beryllium on Ageing of the Copper-Silver Alloys (Part IV. On the Problem of Causes of the Effects of Small Alloying Additions on the Kinetics of Ageing of Alloys)

property to the length of time required to effect this variation) was calculated for various investigated alloys and the results were reproduced graphically. Fig.1 shows how v_{cm} (assessed on the basis of hardness measurements) of alloys with a constant Sb content aged at 370°C varied with increasing Be content. The variation of v_{cm} (calculated from the data on magnetic susceptibility) of alloys containing 0.2% Sb and aged at 370 , 400 and 420° with increasing Be content is shown in Fig.2, while Fig.3 shows the effect of Be on v_{cm} (determined on the basis of electrical resistance measurements) of the 0.2% Sb alloy aged at 370°C . The effect of the Sb and Be additions on the course of the ageing process in its various stages was determined on the basis of the measurements of magnetic susceptibility, since this property could be measured

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SOV/126-6-4-9/3-

The Effect of Small Additions of Antimony and Beryllium on Ageing of the Copper-Silver Alloys (Part IV. On the Problem of Causes of the Effects of Small Alloying Additions on the Kinetics of Ageing of Alloys)

15-30 minute intervals on specimens solution treated at 780 - 790°C and aged at 370°C. Magnetic susceptibility was measured with the aid of a magnetic balance at room temperature and at 370, 400 and 420°C. The measurements were taken at 10-15 minute intervals and in every case the value of relative magnetic susceptibility was determined, i.e. the force acting on the investigated specimen was compared with the force acting on a standard nickel sulphate specimen placed in an identical magnetic field. Electrical resistance was measured by the comparison of potential drop method, using a potentiometer and a sensitive galvanometer. In this case, both the solution treatment and ageing (at 370°C) were carried out in vacuum and the measurements were taken at 15 minute intervals. From the experimental data the average rate of ageing (v_{cm} = the ratio of the maximum increment of the studied

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SOV/126-6-4-9/34

The Effect of Small Additions of Antimony and Beryllium on Ageing of the Copper-Silver Alloys (Part IV. On the Problem of Causes of the Effects of Small Alloying Additions on the Kinetics of Ageing of Alloys)

additions. The object of the present investigation was to study the simultaneous effect of two homophilic additions. The experimental alloys whose detailed chemical analysis is given in a table on p 633, contained 6% Ag with 0.2 - 0.5% Sb and 0.02 - 0.3% Be added either separately or jointly. The alloys were melted in a H.F. induction furnace, in a graphite crucible with corax used as the covering flux. The cast ingots were heated under charcoal to 800°C, held at the temperature for 2 hrs and cooled in the furnace. They were then rolled to strip 5 mm thick which, after a homogenising treatment consisting of 50 hours at 800°C was used for the preparation of the experimental test pieces. The process of ageing was studied by measuring the variation of hardness, magnetic susceptibility and electrical resistance. The measurements of Rockwell hardness were taken at

Card 2/11

MOISEYEV, A. I.

with V. S. AVERKIYEV, G. N. KOLESNIKOV, and M. V. YAKUTOVICH
 "Device for Testing of Stress Relaxation in Tension" p. 71

with G. N. KOLESNIKOV and M. V. YAKUTOVICH
 "Effect of Small Additions of Alloying Elements on Stress Relaxation in
 Iron-Chrome-Nickel Alloys" p. 95

with G. N. KOLESNIKOV
 "Slip Plasticity and Diffusion Plasticity in the Stress-Relaxation Process"
 p. 101

with V. I. ARKHAROV, S. I. IVANOVSKAYA, G. N. KOLESNIKOVA
 "Stress Relaxation and Irregularity of Diffusional Mobility in
 Polycrystalline Austenitic Iron-Chrome-Nickel Alloys" p. 122

with G. N. KOLESNIKOV
 "The Effect of Phase Transformations on Stress Relaxation" p. 127

Problems in the Theory of Heat Resistance of Metal Alloys, Moscow, Izdat.
 AN SSSR, 1958, 160 pp. (Trudy, Inst. Fiz. Metal., Ural filial, AN SSSR)
 46 19

The articles in this book constitute reports on extensive studies, conducted
 between 1949 and 1954 by the Inst. Physical Metallurgy Urals Branch, AN USSR, and
 devoted to the development of a general theory of heat resistance.

SOV/137 58 8 17694

An Investigation of the Effect of Small Quantities (cont.)

solution. Owing to adsorptional concentration changes in these transitional zones, the rate of Ag diffusion, which is instrumental in the expansion of primary zones of increased density and in further growth of newly formed crystal nuclei of the precipitating phase, is greatly changed. Bibliography: 18 references.

V N

1. Antimony-beryllium-copper-silver alloys--
Analysis
2. Antimony-beryllium-copper-silver
alloys--aging

Card 3/3

SOV 17 58 8 17694

An Investigation of the Effect of Small Quantities (cont.)

charcoal packing for a period of 50 hrs at a temperature of 800° and were allowed to cool in air. After a two hour exposure to $780-790^{\circ}$ the specimens were quenched in ice water. The A was carried out at 300° the first stage of the process (up to maximum hardness of the alloy) requiring from 0.5 to 2 hrs; the total duration of the process amounted to 3-5 hrs. Every 15 minutes the specimens were taken out of the furnace and were cooled in water, after which their hardness was measured. The average rate of aging was determined from the curves showing the hardness as a function of the A time. It was established that the accelerating and retarding time rate-affecting additives, present concurrently in a solid solution undergoing decomposition, do not have an additive effect upon the process of A. A maximum rate of A was observed in an alloy with a minimum amount of Be additive (in the presence of Sb); the absolute magnitude of this rate is greater than the rate of A in an alloy with the same concentration of Sb but containing no Be. The absolute magnitude of hardness of alloys containing both Sb and Be is greater than that of alloys containing only one of the additives. The strong influence of small amounts of Sb and Be on the rate of A is explained by internal adsorption of Sb and Be in distorted zones of the junctions of the primary regions with increased density of Ag concentration, or in zones of new phase nuclei with their surrounding solid

Card 2/3

SOV/137-58-8-17694

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 8, 5-11A (USSR)

AUTHORS: Arkharov, V. I., Moiseyev, A. I., Polikarpova, L. P.

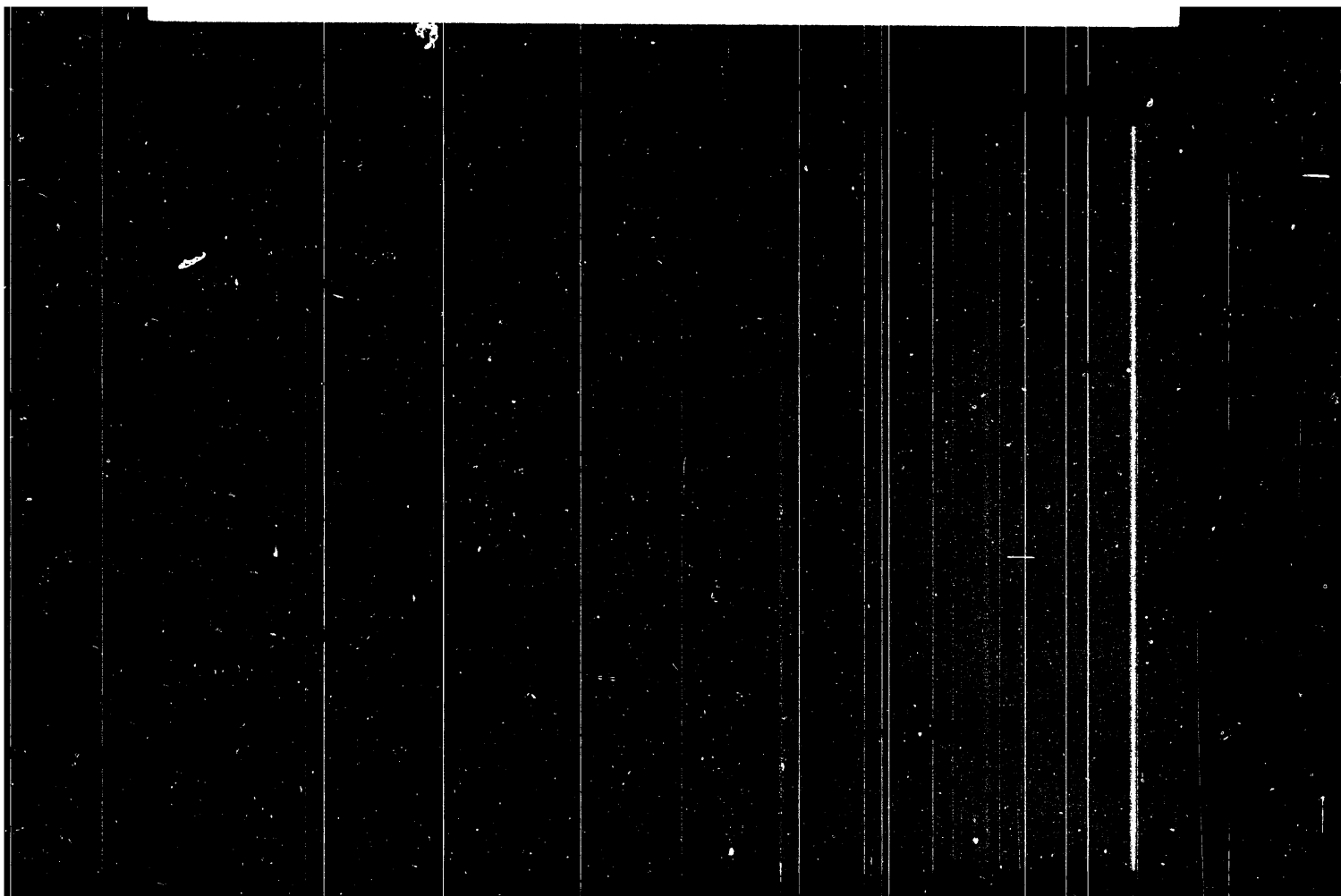
TITLE: An Investigation of the Effect of Small Quantities of Additives on the Kinetics of Aging of Alloys (Issledovaniye vliyaniya mal'kikh primesei na kinetiku stareniya splavov)

PERIODICAL: V sb.: Issled. po zharoprochn. splavam, Vol. 2, Moscow, AN SSSR, 1957, pp. 92-97

ABSTRACT: Hardness measurements were employed in an investigation dealing with the combined accelerating and retarding effect of time-rate affecting additives on the early stages of the aging (A) process of Cu alloys containing up to 6% of Ag, Sb (up to 0.5%) and Be (up to 0.3%) served respectively as the accelerating and retarding additives. The alloys were prepared from electrolytic Cu (99.9% pure), Ag and Sb (both 99.9% pure), and Be (97.7% pure). Following a two-hour anneal at a temperature of 800°C and a period of cooling in the furnace, the ingots were forged at room temperature in order to reduce their thickness from 8 mm to 6 mm and rolled until their final thickness amounted to 5 mm; they were then homogenized in a

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001134900024-6

MOISEYEV, Aleksey Grigor'yevich; PETROV, Viktor Mikhaylovich; VOLKOV, I.V., retsenzant;
VERBITSKAYA, Ye.M., red.; SHUB, L.S., spets.red.; SHVETSOV, S.V., tekhn.red.

[Manual for engraving of textile patterns] Rukovodstvo po
gravirovaniu tekstil'nogo risunka. Moskva, Izd-vo nauchno-
tekhn.lit-ry RSFSR, 1961. 147 p. (MIRA 15:2)
(Textile printing) (Engraving)

ACCESSION NR: AP4043823

dipped parts were exposed for 10 days to sea water or nitric acid (~17% concentration). Prior phosphating did not improve the corrosion resistance of coatings. FG-9, FG-50 and MK-4 were best in tap water, FG-9 and FG-50 were adequate in 5% sodium chloride at 50C and 5% solutions of nitric or hydrochloric acids, but not in sulfuric acid. MK-4 protected only in dilute solutions of nitric acid. Adhesion to an untreated scale surface was poor for all coatings. Two coats of FG-9 or FG-50 provided adequate protection in sea water. FG-50 was somewhat better in nitric acid and is recommended. The stability of its film increases when curing temperature is increased to 200C. Orig. art. has: 5 tables.

ASSOCIATION: None

SUBMITTED: 00

ENCL: 00

SUB CODE: MT

NO REF SOV: 000

OTHER: 000

Card 2/2

ACCESSION NR: AP4043823

S/0303/64/000/004/0054/0056

AUTHOR: Moiseyev, A. F., Olenin, S. S., Neshumova, A. I.

TITLE: Use of polyorganosiloxane coatings to protect parts of DM-6 differential manometers against corrosion in aggressive media

SOURCE: Lakokrasochny*ye materialy* i ikh primeneniye, no. 4, 1964, 54-56

TOPIC TAGS: anticorrosion coating, polyorganosiloxane coating, differential manometer, coating FG-9, coating 192T, coating FG-50, coating MK-4, coating FG-35, chromic oxide coating, aluminum powder coating, titanium dioxide coating, metallic coating, phosphate precoating, polyorganosiloxane, corrosion, sea water

ABSTRACT: Modified polyorganosiloxane coatings 192T, FG-9 (+ 12% chromic oxide or 6% Al powder by weight), FG-35 (+ 5% Al powder), FG-50 (+ 5% Al powder) and MK-4 (+ 12% titanium dioxide) were used to coat the housings, seats and membrane chambers of DM-6 differential manometers in a study of optimal protection against corrosion in various aggressive media. Housings and seats were prepared by sandblasting, membrane blocks were either untreated or etched in nitric-hydrochloric acid mixture. Sprayed parts (1 or 2 coats) were exposed for one month to tap water at room temperature, 5% sodium chloride at room temperature or 50C, or 5% solutions of sulfuric, hydrochloric or nitric acids;

Card 1/2

NAEZHAFOV, Yu.B.; LOSEV, V.B.; ISHANTOV, Yu.Kh.; MURPHYEV, A.P.;
TUBYANSKAYA, V.I.

Heats of combustion of some nitrogen-containing organic compounds
Zhur. fiz. khim. 39 no.5:1220-1223 My '66. (UK, 15, 1966)

L 18013-86

ACC NR: AP0004314

use was made of diethylchlorosilane, methylphenyldichlorosilane (MP), phenyltri-chlorosilane, and methyltrichlorosilane (M). Comparative studies of polyorgano-phenylenesiloxane and polyorganosiloxane lacquer films showed that both the polycon-densation and polymerization of cohydrolyzates of organophenylenesiloxanes occur much faster (5 to 15 times) than those of cohydrolyzates of organosiloxanes. Because of replacement of a large number of siloxane linkages in the main chain of poly-organosiloxanes by silphenylene linkages, the drying time of the films is substan-tially reduced and their thermal stability is improved, but their thermoelasticity declines (i. e., brittleness increases). Introduction of small quantities of sil-phenylene linkages into the polyorganosiloxanes, carried out by adding small amounts of p-bis(phenyldichlorosilyl)benzene and bis(methyldichlorosilyl)benzene to the ini-tial mixture of chlorosilanes, was shown to shorten the drying time of the films, increase their mechanical strength and thermal stability, and leave the thermal sta-bility and thermoelasticity unaffected. Orig. art. has: 2 figures, 4 tables.

SUB CODE: 07/

SUBM DATE: 00/

ORIG REF: 009/

OTH REF: 012

Card 2/11

MGS

1 15012-66 ENT(m)/ENP(j) RM

REF ID: A6004314

SOURCE CODE: UR/0303/65/000/005/0014/0018

AUTHOR: Moiseyev, A. F.

ORG: none

TITLE: Synthesis and some properties of lacquer films from polyorganosiloxane polymers containing silphenylene linkages in the main chain

SOURCE: Lakokrashchnyye materialy i ikh primeneniye, no. 5, 1965, 14-18

TOPIC TAGS: polymer structure, polysiloxane, organosilicon compound

ABSTRACT: A study was made of the influence of the nature of the organic solvent on the course of cohydrolysis of various bis[alkyl(aryl)chlorosilyl]benzenes and alkyl(aryl)chlorosilanes, and of the influence of conditions of cohydrolysis and relative proportions of these chlorosilanes (functionality of the mixture), on the polycondensing (polymerizing) capacity of the cohydrolyzates and on the properties of the cohydrolyzates obtained, i. e., polyorganophenylenesiloxanes. The phenylene-containing monomers used were bis(trichlorosilyl)benzene, bis(methyldichlorosilyl)benzene, and p-bis(phenyldichlorosilyl)benzene (BPED). Among alkyl(aryl)chlorosilanes,

UDC: 667. 633.263.3

Card 1/2

60 E. 11/11/61 11/11/61 (11/11/61) RPL 11/11

ACC NO: 11/11/61

SOURCE CODE: UR/0286/65/000/021/0035/0035

AUTHORS: Shibayeva, A. F.; Shibayeva, L. M.

ORG: none

TITLE: A method for obtaining varnish. Class 22, No. 176023

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 21, 1965, 35

TOPIC TAGS: varnish, copolymerisation, heat resistance

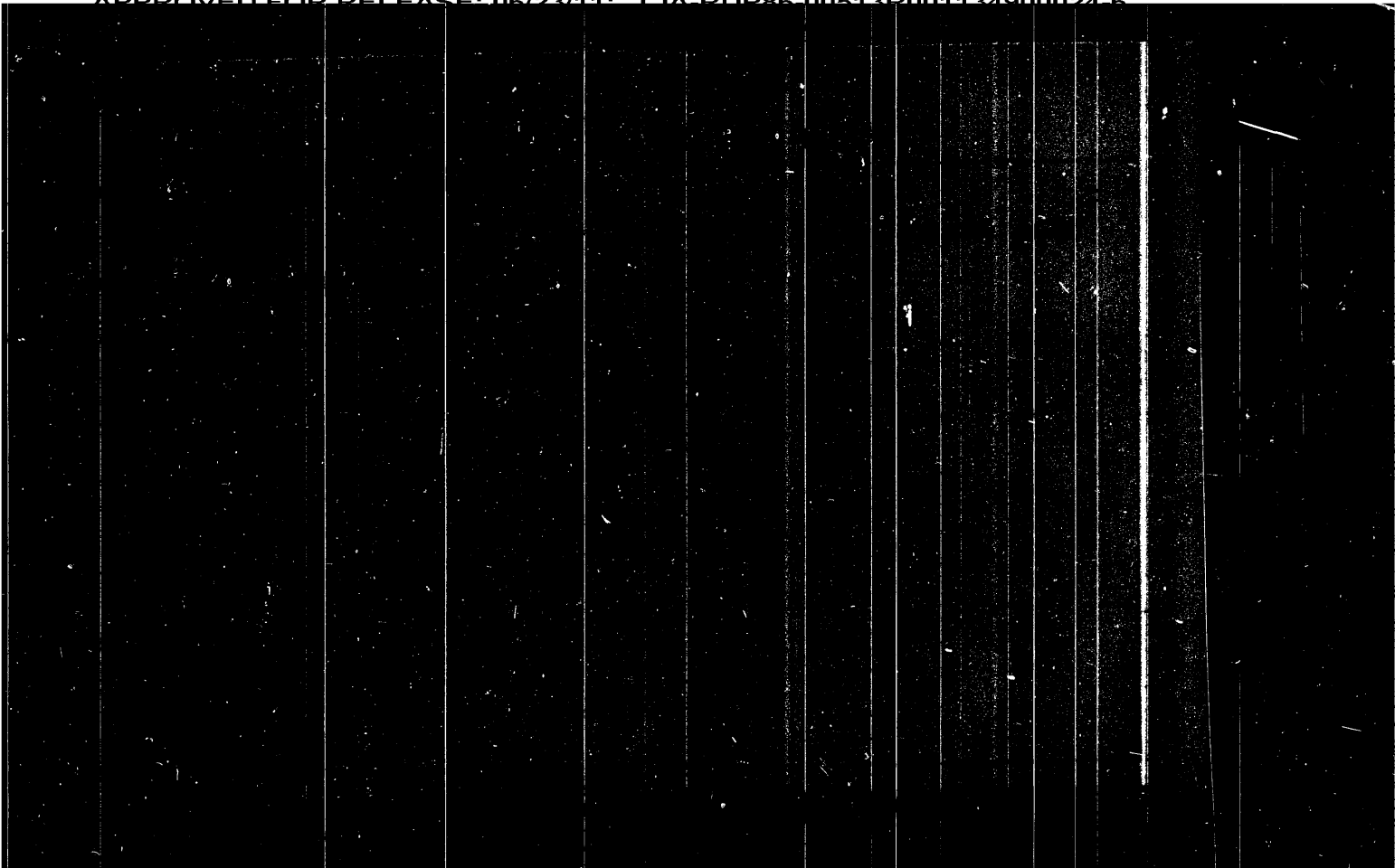
ABSTRACT: This Author Certificate presents a method for obtaining varnish by alkaline copolymerisation of phenyltrichlorosilane and dimethyldichlorosilane. To increase the heat resistance of the varnish, methylphenyldichlorosilane is added to the mixture being copolymerised.

SUB CODE: 11/

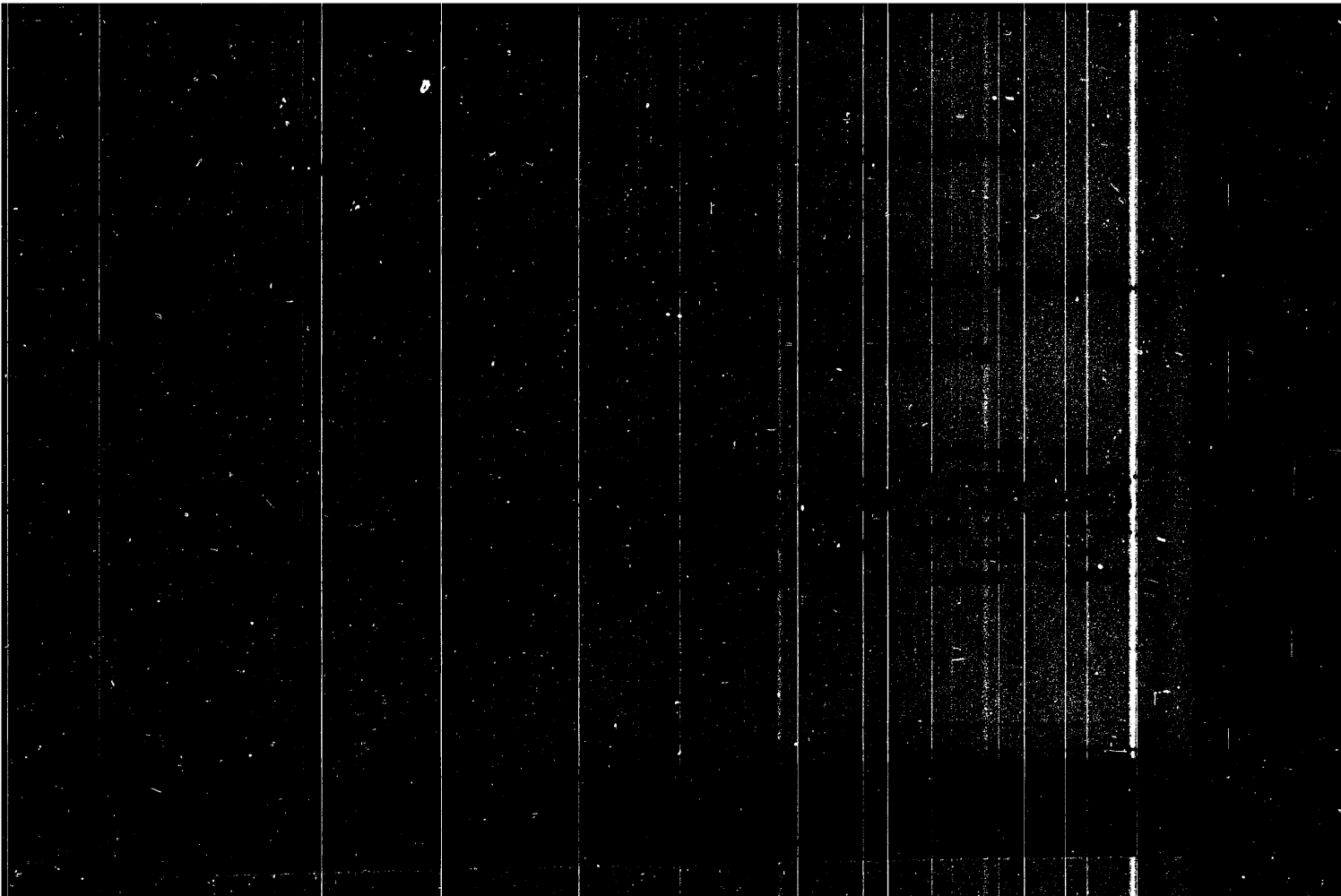
SUBM DATE: 04 Nov 61

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001134900024-6

26992

S/191/61/000/009/002/007
B110/B218

Production of linear polyurethanes...

affected by the diol ratio. There are 7 figures, 3 tables, and 5 references: 2 Soviet and 3 non-Soviet. The two references to English-language publications read as follows: Ref. 1: O. Bayer, *Mod Plastics*, 24, 149 (1947); Ref. 5: R. Hill, E. Walker, *J. Polymer Sci.*, 2, 609 (1948).

Table 3. Physicomechanical properties of PU obtained from hexamethylene diisocyanate and glycol mixtures. Legend: (1) glycol, (2) glycol ratio, moles, (3) impact strength according to Dinstat, $\text{kg}\cdot\text{cm}/\text{cm}^2$, (4) static bending according to Dinstat, $\text{kg}\cdot\text{cm}/\text{cm}^2$, (5) Brinell hardness, kg/mm^2 , (6) water absorption, %, (7) thermal stability according to Vicat, $^{\circ}\text{C}$, (8) melting temperature, $^{\circ}\text{C}$, (9) ethylene glycol, diethylene glycol, (10) ethylene glycol, 1,4-butanediol, (11) diethylene glycol, 1,4-butanediol, (12) triethylene glycol, 1,4-butanediol, (13) 1,6-methyl hexanediol, 1,4-butanediol.

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Production of linear polyurethanes...

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films. Melting point, thermal stability, Brinell hardness first drop with increasing EG content of the mixture, start rising at 35-40% of EG and reach a maximum at 100% of EG. The water-absorbing capacity drops to 0.23% with 100% of EG. PU on the basis of an EG - 1,4-butanediol (BD) mixture are white, horny, but less solid, soluble only in cresol and a phenol-water mixture (90 : 10). In melting, they yield strong threads and elastic films. Melting temperatures, thermal stabilities, and impact strengths are lower in glycol mixtures than in individual diols, the water-absorbing capacity is slightly higher. PU on the basis of DE - 1,4-BD mixtures are transparent, elastic, and soluble in cresol only. The elasticity of threads and films from the melts decreases with increasing 1,4-BD content while the strength increases. PU on the basis of triethylene glycol - 1,4-BD mixtures are more elastic, and soluble in $C_2H_5OH-CHCl_3$ and $C_2H_5OH-C_2H_4Cl_2$. In the same solvents, also PU based on methylhexanediol- 1,4-BD mixtures are soluble. These PU are white or transparent elastic products. From the melt, they produce very strong threads and solid films. The impact-strength curve according to Dinstat of the DE - 1,4-BD mixture passes a minimum with increasing DE content, and reaches a maximum at about 75% of DE. The physicommechanical properties of PU are strongly and in a complicated manner

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threads in melting. They are soluble in triresol or in a phenol-water mixture (90 : 10). PU based on diethylene glycol and 1,6-methylhexanediol are transparent colorless elastic substances; they are soluble in triresol in phenol-water mixtures (90 : 10), and also in alcohol-chloroform mixtures (50 : 50). From the solutions, they form elastic films of high mechanical strength. Transparent, brittle products are obtained on the basis of glycols with a secondary hydroxy group such as 1,2-propanediol and 1,3-butanediol. PU hardness drops with rising molecular weight of diol. The side groups and the oxygen atom in diol increase the impact strength. PU on the basis of diethylene glycol (DE) have low strength and thermal stability, high water-absorbing capacity, and a large tangent of the angle of dielectric losses. The authors found: The presence of a methyl side group or of ether oxygen in the glycol component reduces the melting temperature, hardness, thermal stability, and other physico-mechanical indices. Elasticity and solubility in organics increase. PU on the basis of an ethylene-glycol (EG) - DE mixture are white, elastic, soluble in cresol, $C_2H_5OH - CHCl_3$ mixtures (50 : 50), and $C_2H_5OH - C_2H_4Cl_2$ mixtures.

From melts, PU with high EG content produce strong threads and poorly elastic films, PU with high DE content, weak threads and solid elastic

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26992

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B110/B218

15.8140

AUTHORS: Korshak, V. V., Strepikheyev, Yu. A., Moiseyev, A. F.

TITLE: Production of linear polyurethanes without solvents. Some physicochemical indices of polyurethanes based on hexamethylene diisocyanate and a number of glycols

PERIODICAL: Plasticheskiye massy, no. 9, 1961, 16 - 20

TEXT: The authors studied the change in physicochemical properties of polyurethanes (PU) obtained on the basis of hexamethylene diisocyanate and some glycols. The PU were produced by adding the stoichiometric amount of diisocyanate to the heated diol. The method was developed by the authors (Plast. Massy, No. 6, 1961, ibid., No. 7, 1961). The authors determined melting point, molecular weight (viscosimetrically), and other physicochemical indices. In PU on the basis of diols with different numbers of C atoms, the maximum melting point lies at 183°C for 1,4-butanediol PU. Melting points of PU on the basis of glycols with even numbers of C atoms are slightly higher than with odd numbers of C atoms. PU on the basis of ethylene glycol, 1,4-butanediol, 1,6-hexanediol, and 1,10-decanediol are transparent or white, solid, horny substances which yield cold-drawing

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P101/B215

Synthesis of linear polyurethanes...

weight, the Staudinger constant was set equal to $11 \cdot 10^{-4}$. 1) In the presence of oxygen, the molecular weight was considerably reduced. In nitrogen atmosphere, the molecular weight was only slightly reduced (from 36,000 to 33,000) by an increase of the initial temperature of the reaction from 80 to 180°C. In the presence of air, the molecular weight was 25,000 at 80°C and 14,000 at 180°C. An increase of the final reaction temperature from 190 to 230°C reduced the molecular weight in nitrogen atmosphere from 36,000 to 23,000 and in air from 24,000 to 8000. Under optimum reaction conditions (initial temperature: 80 to 90°C; final temperature: 200-210°C) the duration of dropwise addition of diisocyanate in nitrogen atmosphere did not affect the molecular weight. By dropwise addition of 20 min, a maximum molecular weight of 25,000 was obtained in the presence of air. Slower addition reduced the molecular weight. After 5 hr the molecular weight was unchanged by heating the polymer in N_2 up to 200°C. Heating up to 210°C led to a slight decrease. The presence of air reduces the molecular weight by 50 % within 2 hr at 190°C or within 1 hr at 200°C. 2) An excess of 1,4-butanediol caused the following changes in the molecular weight: 0.0 % excess: 35,400; 1.0 %: 28,050; 10 %: 5100;

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S/191/61/000/007/003/010
B101/B215

AUTHORS: Korshak, V. V., Strepikheyev, Yu. A., Moiseyev, A. F. ✓

TITLE: Synthesis of linear polyurethanes without solvents. Some rules governing the reaction of hexamethylene diisocyanate with 1,4-butanediol in the melt

PERIODICAL: Plasticheskiye massy, no. 7, 1961, 13-16

TEXT: This report is a continuation of a study on the synthesis of polyurethanes without using solvents (Plast. massy, no. 6, 1961). The effect of the following factors upon the molecular weight was studied in the present paper: 1) presence of atmospheric oxygen; 2) ratio of the components; 3) addition of monofunctional reagents; 4) duration of heating. The synthesis of polyurethane was conducted by dropwise addition of hexamethyl diisocyanate to heated 1,4-butanediol. The temperature of the mass was not allowed to exceed a certain reaction temperature. The melt was kept at this temperature for a while, and, finally, the viscosity of a 0.5 % solution in tricresol was determined. In calculating the molecular

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temperature was maintained for 1.5-2.0 hr. The polymer obtained is easily soluble in tricresol. Addition of 1,4-butanediol to the heated hexamethylene diisocyanate yielded no linear polymers. An insoluble, rubber-like substance formed due to cross-linking. For the following reasons, this method is recommended for industrial application: (1) The reaction rate of resin formation is higher than in the presence of solvents; (2) the reaction can easily be regulated by varying the rate of diisocyanate addition; (3) polymers with the desired molecular weight can be obtained by varying the rate of diisocyanate addition and the intensity of mixing. There are 1 table and 14 references: 5 Soviet-bloc and 9 non-Soviet-bloc. The most important reference to English-language publications reads as follows: O. Bauer, Mod. Plastics, 24, no. 10, 407, (1947).

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B101/B215

1/22/2

AUTHORS: Korshak, V. V., Strepikheyev, Yu. A., Moiseyev, A. F.

TITLE: Synthesis of linear polyurethanes without solvents
Communication I. Synthesis of linear polyurethanes in the
melt

PERIODICAL: Plasticheskiye massy, no. 6, 1961, 10-11

TEXT: Results are reported according to which the synthesis of polyurethanes in the melt has considerable advantages over the synthesis in inert solvents. The reaction of 1,4-butanediol with hexamethylene diisocyanate was examined. Mixing of equimolar amounts of the two reagents causes the destruction of the polymer due to a great increase in temperature. In a nitrogen atmosphere, colorless polymers were obtained at 230°C with a molecular weight varying from 15,000 to 25,000. In a nitrogen atmosphere free from oxygen, hexamethylene diisocyanate was therefore added dropwise to butanediol heated at 80-90°C. After addition of 90% of the diisocyanate the strongly viscous mass was heated at 200-210°C for better stirring, and then, after adding the remaining diisocyanate, the above

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Durability of polyethylphenylsiloxane lacquers in a long-period
storage in warehouses. Lakokras.mat.1 ikh prim. no.5:58-61 '60.

(MIRA 13:11)

(Lacquer and lacquering)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001134900024-6

NOISNIN, A.P.; ZHNIKIN, D.Ya.; BORISOV, M.P.

Heat-resistant or organosilicon coatings. Lakokras. mat. 1 kkh prin.
no. 4:35-40 '60. (MIRA 13:10)
(Silicon organic compounds) (Protective coatings)

MOISEYEV, A.F.; CHINENOVA, M.A.

Investigation of the protection properties of enamel No.9 and
lacquer FC-9. Lakokras.mat.i ikh prim. no.3:58-61 '60.

(MIRA 14:4)

(Protective coatings)

On the Type of Viscosity Change in
Solutions of the Polyethyl-phenyl-siloxane
Resin During Aging

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B027/B058

in the presence of lead-manganese linoleate than in solutions from pure resin. During ultraviolet irradiation the viscosity change proceeded analogously, but quicker. The quicker viscosity reduction at an addition of lead-manganese linoleate can be explained with the sorption of the molecules of this salt by the dissolved polysiloxane chain molecules. The reciprocal molecular action is thus reduced, the structural bonds between the chain-polymer molecules are destroyed and the viscosity of the solution is reduced. This mechanism was determined by V. A. Kargin and I. V. Mikhaylov during the effect of certain electrolytes on the viscosity of ether cellulose solutions. There are 5 figures and 17 references: 14 Soviet and 3 German. ✓

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S/191/60/000/002/006/012
B027/B058

AUTHOR: Moiseyev, A. F.

TITLE: On the Type of Viscosity Change in Solutions of the Poly-
ethyl-phenyl-siloxane Resin During Aging

PERIODICAL: Plasticheskiye massy, 1960, No. 2, pp. 24-26

TEXT: The author studied the viscosity change in solutions of polyethyl-phenyl-siloxane resin in toluene during thermal aging at 60°C and ultra-violet irradiation at 50 to 55°C by the mercury lamp of the type ПРК-2 (PRK-2). Aging tests were conducted with 43 to 44% solutions of two samples in toluene, i.e. of a pure polyethyl-phenyl-siloxane resin and a resin with an addition of lead-manganese linoleate and siccative 64-6 (64-B). It was established by periodic measurements during thermal aging and subsequent storage of the solutions at normal temperature that the viscosity decreased quickly at the beginning and remained almost stable during further heating. The viscosity of solutions subjected to thermal aging was not re-established at normal temperature during six months. The viscosity reduction in resin solutions of equal concentration is stronger

Card 1/2

Thermal Stability of Some Protective
Organosilicon Enamels

BO16/BO54

No. 315 and G-4 (G-4). Modification with these resins was carried out by joint condensation of a mixture of the products of joint hydrolysis with polyesters at increased temperature. The heat resistance was tested on pure varnishes and varnishes with pigment admixture (titanium dioxide, chromium oxide, chromium titanate, cadmium red, and aluminum powder) on a steel surface; the protective action and the physicomachanical properties were estimated, which render their practical application possible. The results obtained with resins No. 315 and G-4, as well as with epoxy resin 9-40 (E-40), showed a low heat resistance of the corresponding varnishes at 300°C. Varnishes No. 1 and 2 were much more resistant with an admixture of cadmium red, titanium dioxide, and chromium oxide than without a pigment, both in the pure state and modified by BMK-5 or NI-150. The resulting enamels endure a temperature of 300°C for more than 300 h. After 300 h of heating at 300°C, the average weight loss of the coat is 5-7% in varnishes No. 1 and 2 in the pure state, and 15-22% in varnishes modified with BMK-5 and NI-150. Varnish No. 2 with aluminum powder as a coat endures a temperature of 400°C for more than 100 h, and shows a weight loss of 20.4%. There are 2 tables and 9 references: 4 Soviet, 2 French, and 2 US.

Card 2/2

AUTHORS: ~~Moiseyev, A. E.~~ Maklashina, T. S., Makarova, L. V.,
Zhinkin, D. Ya., Konstantinova, N. G.

TITLE: Thermal Stability of Some Protective Organosilicon Enamels

PERIODICAL: Plasticheskiye massy, 1960, No. 1, pp. 36-38

TEXT: The authors report on their studies of the heat resistance of protective organosilicon enamels which were in operation at 300 and 400°C for a prolonged period. Two types of polymethyl phenyl siloxane resins were used as binding agents for these enamels; the resins were used in the pure state and modified by organic polymers. The R/Si ratio was 1.7, in resin I, and 1.5 in resin II. Toluene solutions of resin I are named No. 1, of resin II, No. 2. To modify the binding agent, the authors used the following substances: 1) Polyacrylate of the type EMK-5 (BMK-5) which was added both by the mixing of solutions and on heating. It was previously dissolved in solvent No. 648 (ГОСТ 4006-48, GOST 4006-48). 2) High-viscous ethyl cellulose HM-150 (NI-150) was added in solution. 3) Polyester resins

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Kremniyorganicheskiye polimery i ikh primeneniye; posobiye dlya uchiteley (Silicones and Their Use; Manual for Instructors) Moscow, Uchpedgiz, 1960. 107 p. 16,000 copies printed.

Ed.: N.G. Kuryшева; Tech. Ed.: R.V. Tsypko.

PURPOSE: This manual is intended for chemistry teachers in secondary schools.

COVERAGE: The manual deals with the chemistry, manufacture, and application of silicones. The development of silicones is described and their basic classification and nomenclature presented. Various methods for the obtaining of silicone monomers and polymers are described and their industrial applications listed. No personalities are mentioned. There are no references.

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Organo-silicic Resins and Varnishes and Their
Application

SOV/64-59-2-4/23

of polyethylphenylsiloxane EF-3 and EF-5, polymethylphenylsiloxane K-40, K-41, K-43, K-44, K-47 and K-48 (Ref 31) are the most frequently used. Among a large number of possibilities of combination and application of (OR) for corrosion-proof coatings the heat-resistant enamel varnish Nr 9 and the polydimethylphenylsiloxane enamel varnishes PRKE-13 and PRKE-15 are preferably used in Soviet industries (Ref 31). Plastics on (OR) basis are largely used in the electrical industry, as well as for the production of foam plastics. For their production polymethylphenylsiloxane resins K-40 and K-47 as well as modified (OR) with phenol formaldehyde-, epoxy- and polyurethane ester resins are the most suitable. There are 73 references, 46 of which are Soviet.

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15(8)

AUTHORS: Andrianov, K. A., Corresponding Member, SOV/64-59-2-4/23
AS USSR, Zhinkin, D. Ya., Candidate of
Technical Sciences, Moiseyev, A. F., Candidate
of Technical Sciences

TITLE: Organo-silicic Resins and Varnishes and Their Application
(Kremniyorganicheskiye smoly i laki i ikh primeneniye)

PERIODICAL: Khimicheskaya promyshlennost', 1959, Nr 2, pp 106-111 (USSR)

ABSTRACT: In the USSR organo-silicic resins (OR) are largely used in the production of heat-resistant varnishes. At present, there exist several types of (OR), but only polymethylsiloxane-, polyphenylsiloxane-, polychlorophenylsiloxane-, polymethylphenylsiloxane-, and polyethylphenylsiloxane resins are being used in pure state and changed with organic polymers. Temperature resistance, hydrophobic properties, as well as chemical and oxidation resistance are the most important properties of the varnish- and resin films produced on the basis of (OR). Organo-silicic resins and varnishes exhibit good dielectric properties depending only little on temperature and current frequency. For this reason they are used for electrical insulation. In the USSR the electrical insulation varnishes

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